

Listing of Claims:

1. (Currently amended) A method for recovering mesenchymal stem cells from bone marrow aspirate, comprising:

(a) providing a cell mixture comprising mesenchymal stem cells and other cells;
(b) seeding the cell mixture in a culture device comprising an upper plate with pores, ~~said the pore size ranges from about 1.5 to 20 microns in diameter~~, and a lower plate base to separate mesenchymal stem cells from other cells through the pores, wherein the mesenchymal stem cells retain and adhere onto the upper plate, and the other small-sized cells pass through the pores to the lower plate base; and

(c) recovering the mesenchymal stem cells from the upper plate.

2-3. (Canceled)

4. (Previously presented) The method as claimed in claim 1, wherein the cell mixture comprises mammalian mesenchymal stem cells.

5. (Canceled)

6. (Previously presented) The method as claimed in claim 4, wherein the cell mixture comprises human mesenchymal stem cells.

7-8. (Canceled)

9. (Previously presented) The method as claimed in claim 1, wherein the mesenchymal stem cells can differentiate into tissues comprising bone, adipose, or cartilage.

10. (Previously presented) The method as claimed in claim 1, wherein the mesenchymal stem cells are characterized by CD34-.

11. (Previously presented) The method as claimed in claim 9, wherein the mesenchymal stem cells are cultured in 10% fetal bovine serum-supplemented Dulbecco's modified Eagle's medium containing 1 g/L of glucose.

12. (Withdrawn) An isolated mesenchymal stem cell recovered by the method as claimed in claim 1, which has the capability of self-renewal and pluripotent differentiation.

13. (Withdrawn) The mesenchymal stem cell as claimed in claim 12, which can differentiate into tissue comprising bone, adipose, or cartilage.

14. (Withdrawn) The mesenchymal stem cell as claimed in claim 12, which is characterized by CD34-.

15. (Withdrawn) A composition comprising the mesenchymal stem cell as claimed in claim 12 and a culture medium, wherein the medium expands the mesenchymal stem cell.

16. (Withdrawn) The composition as claimed in claim 15, wherein the mesenchymal stem cell is characterized by CD34-.

17. (Withdrawn) The composition as claimed in claim 15, wherein the medium

comprises DMEM-LG medium containing 10% fetal bovine serum.

18. (Withdrawn) A pharmaceutical composition comprising the mesenchymal stem cell as claimed in claim 12 and a pharmaceutically acceptable carrier, wherein the mesenchymal stem cell is present in an amount sufficient to serve as tissue replacement or gene therapy for tissue damaged by age, trauma, and disease.

19. (Withdrawn) A pharmaceutical composition as claimed in claim 18, wherein the mesenchymal stem cell can differentiate into tissues comprising bone, adipose, or cartilage.

20. (Withdrawn) A composition comprising as claimed in claim 18, wherein the mesenchymal stem cell is characterized by CD34-.

21-31. (Canceled)

32. (Previously presented) the method as claimed in claim 1, further comprising, after step (b), a step of removing cells not adhered on the plate by changing a culture medium.

33. (new) The method as claimed in claim 1, wherein the upper plate with pores, said the pore size ranges from about 0.4 to 40 microns in diameter.